REMARKS

The Applicant and the undersigned thank Examiner Vaughan for the careful review of this application. Claims 1-40 have been rejected by the Examiner. Upon entry of this amendment, Claims 1-40 remain pending in this application. The independent claims are Claims 1, 18, 26, 31, and 32. Consideration of the present application is respectfully requested in light of the above amendments to the application and in view of the following remarks.

Telephonic Interviews of June 21, 2004 and June 22, 2004

The Applicant and the undersigned thank Examiner Vaughn for his time and consideration given during the telephonic interviews mentioned above. During these interviews, the prior art of record was discussed. Specifically, the U.S. Pat. No. 5,345,595 issued in the name of Johnson et al. (hereinafter, the "Johnson reference") and U.S. Pat. No. 5,414,833 issued in the name of Hershey et al. (hereinafter, the "Hershey reference") were discussed.

The Applicant's representative emphasized that the Johnson reference is not an analogous prior art reference and that it is not concerned with the same problems addressed by the claims of this patent application since that reference describes a telephone switching network. The Applicant has defined computer nodes to include workstations for each of the claims to emphasize the computer environment and data packet based focus of the claims of the application. The Applicant's representative also noted that the Examiner on page 5, lines 13-15 of his Final Office Action of April 1, 2004, advised that computer workstations were not claimed and that computer workstations may differentiate the Applicant's technology from a digital cell phone.

The Applicant's representative also mentioned during the telephone interviews that the claimed invention is different than the hardware of the pattern alarms as described by the Hershey reference. To further distinguish the claims from the Hershey reference, the Applicant has added recitations to further define the analyzing step in independent Claims 1, 18, and 32.

The changes to each of the independent claims are fully supported by the originally filed text and drawings. More details of the changes to the claims are discussed fully below. Consideration and approval of this interview summary by the Examiner are respectfully requested. Also, consideration and an early notice of allowance are also courteously solicited.

Drawings and Letter to the Official Draftsperson - Attached

Responsive to the Final Office Action mailed April 1, 2004, Applicant encloses herewith eight (8) sheets of replacement drawings. These replacement drawings do not contain any new matter and are consistent with the changes proposed by the Applicant that were submitted in the Rule 1.111 response on January 30, 2004. Please substitute the originally filed drawings with these replacement drawings. Consideration and approval of these drawings are respectfully requested.

Claim Rejections under 35 U.S.C. § 102(b) and § 103(a)

The Examiner rejected Claims 26-28, and 31 under 35 U.S.C. § 102(b) as being anticipated by the Johnson reference. The Examiner rejected Claims 1-7, 10-14, 16-25, 29-30, 32-37, and 39-40 under 35 U.S.C. § 103(a) as being unpatentable over the Johnson reference in view of the Hershey reference.

The Examiner rejected Claim 8 under 35 U.S.C. § 103(a) as being unpatentable over the Johnson reference in view of U.S. Patent No. 5,475,839 to Watson et al (hereinafter the "Watson reference"). The Examiner rejected Claim 9 under 35 U.S.C. § 103(a) as being unpatentable over the Johnson reference in view the Watson reference, and further in view of a printed publication entitled, "Using the CamNet BBS" (hereinafter, the "CamNet reference").

The Examiner rejected Claim 15 under 35 U.S.C. § 103(a) as being unpatentable over the Johnson reference in view of the Hershey reference, and further in view of a printed publication entitled, "NASA Automated Systems Incident Response Capability (NASIRC)" (hereinafter, the "NASIRC reference"). The Examiner rejected Claim 38 under 35 U.S.C. § 103(a) as being unpatentable over the Johnson reference in view of a printed publication entitled, "Packages in the net directory" (hereinafter the "Packages reference"). The Applicant respectfully offers remarks to traverse these pending rejections.

Independent Claim 1

The rejection of Claim 1 is respectfully traversed. It is respectfully submitted that the Johnson and Hershey references fail to describe, teach, or suggest: (1) analyzing computer data transmissions with the instructions to determine type, destination, and origin of data contained in the computer data transmissions in order to classify the data according to one or more categories;

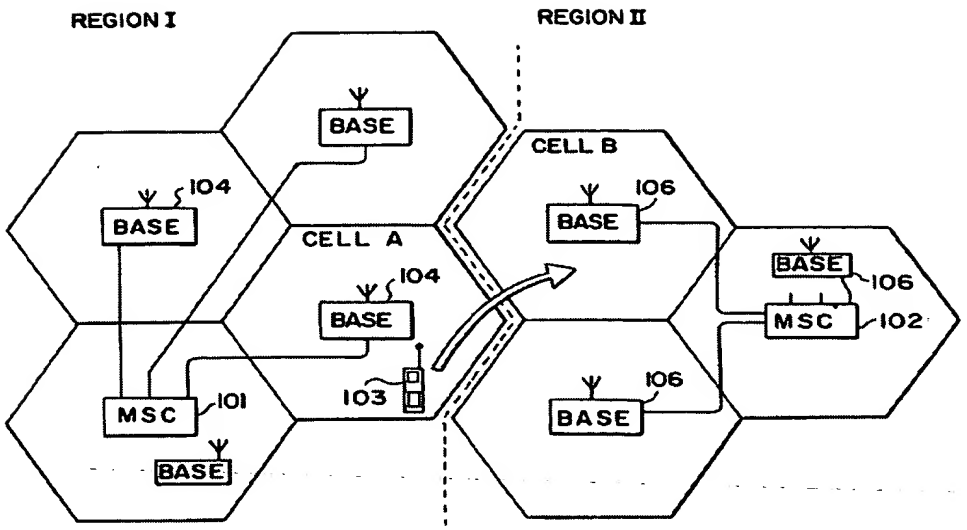
(2) modifying an alert variable based on the computer data transmissions originating from one or more suspect computer nodes comprising workstations; (3) triggering a first response when said alert variable reaches a first predetermined threshold level; and (4) triggering a second response when said alert variable reaches a second predetermined threshold level, as recited in amended independent Claim 1.

The Applicant submits that workstations are not digital cell phones as recited in the Johnson reference. Further, the Applicant respectfully submits that the Johnson reference is not analogous art according to M.P.E.P. § 2141.01(a) (8th Ed., Rev. 1, February 2003) which states the following:

> "TO RELY ON A REFERENCE UNDER 35 U.S.C. 103, IT MUST BE ANALOGOUS PRIOR ART.
>
> The Examiner must determine what is 'analogous prior art' for the purpose of analyzing the obviousness of the subject matter at issue. In order to rely on a reference as a basis for rejection of an Applicant's invention, the reference must either be in the field of Applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. In re Oetiker, 977 F2d 1443, 24 USPQ 2d 1443, 1445 (Fed. Cir. 1992)."

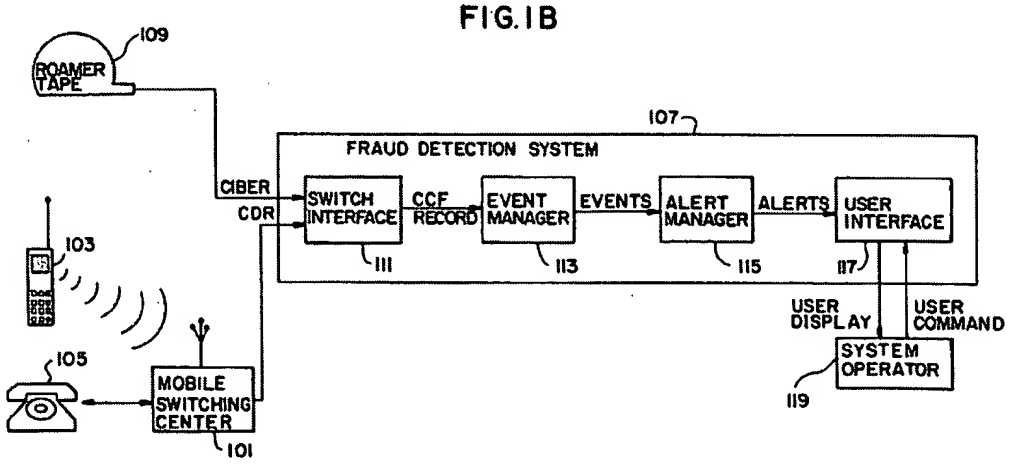
The Johnson patent describes technology for monitoring telecommunication systems and more specifically, system for detecting potentially fraudulent telecommunication system usage. See Johnson reference, column 1, lines 8-11. In Figure 1A of the Johnson reference (reproduced below), a diagram illustrating a typical cellular telecommunications network is presented.

FIG. 1A



A first fixed geographic REGION I made of several cells is served by a first mobile switching center (MSC) 101 that is coupled to several base stations 104. Each base station 104 provides coverage for a particular cell within a geographic region. See Johnson reference, column 5, lines 9-15. Referring to Figure 1B of Johnson (reproduced below), this figure illustrates a fraud detection system 107 that includes a switch interface 111 that translates a call detail record (CDR) into a CCF format understandable to the fraud detection system 107. CDR records for both cellular originated and cellular terminated calls are fed into the switch interface 111 both from the mobile switching centers (MSCs) 101 directly and from a roamer tape 109.

FIG. 1B



Each CCF record is passed to an event manager 113 that performs a number of checks to compare the present CCF record both with past subscriber specific usage information and with certain predetermined conditions to determine whether this particular CCF record should trigger the event manager 113 to generate an "event."

One of ordinary skill in the art recognizes that the telecommunications system of the Johnson reference is not in the computer security field of Applicant's endeavor and is not reasonably pertinent to the particular problem of computer network security with which the inventor of the present application was concerned. Simply stated, the Johnson reference does not provide any teaching of analyzing computer data transmissions to determine what type of data is contained in the computer data transmissions as recited in amended independent Claim 1.

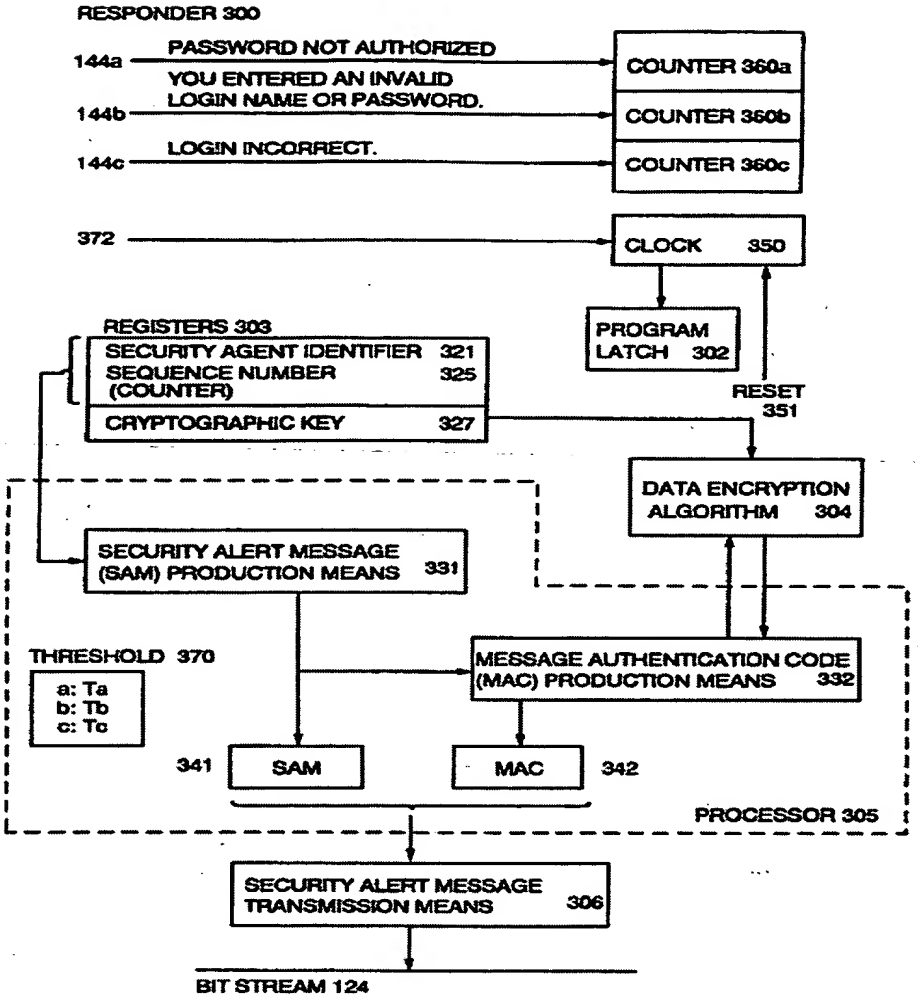
Instead, the Johnson reference teaches analyzing call detail records (CDRs) which are not related to computer data transmissions. The Johnson reference can be properly characterized as a security system for a circuit switched network while the Applicants technology can be properly characterized as a security system for a packet switched network. One of ordinary skill in the art would not refer to a security system of a circuit switched network to address problems or issues with a packet switched network. Therefore, the Johnson reference is not analogous art and cannot be relied on as a basis for rejection of the Applicant's invention.

To make up for several deficiencies of the Johnson reference, the Examiner relies upon the Hershey reference. Specifically, the Examiner admits that the Johnson reference does not provide any teachings of recording data transmissions in a log file and actively scanning suspect nodes. The Examiner relies on the Hershey reference to provide these teachings.

The Hershey reference describes pattern matching finite state machines that do not determine the type of data contained in a data transmission. Specifically, the Hershey reference in Figure 10 (reproduced below) describes an intrusion detector and responder 300 that has pattern alarms 144a, 144b, 144c that review data transmissions for three characteristic patterns, specified in double quotation marks listed below:

1. "Password Not Authorized" - 144a
2. "You entered an invalid login name or password." - 144b
3. "Login incorrect." - 144c

FIG. 10



Counters 360 track how many times each of the characteristic patterns are detected by respective pattern alarms 144. At some point, each of the counters 360 are reset. See Hershey reference, column 21, lines 55-68. This intrusion detector and responder 300 of the Hershey reference is different than analyzing computer data transmissions to determine type, destination, and origin of data contained in the computer data transmissions in order to classify the data according to one or more categories, as recited in amended independent Claim 1.

Specifically, the present application states on page 32, lines 1-6, that the analysis module 250 as illustrated in Figure 2B (reproduced below) determines the type of data contained in a packet. For example, the analysis module can determine whether the packet is a ping, login request, etc.

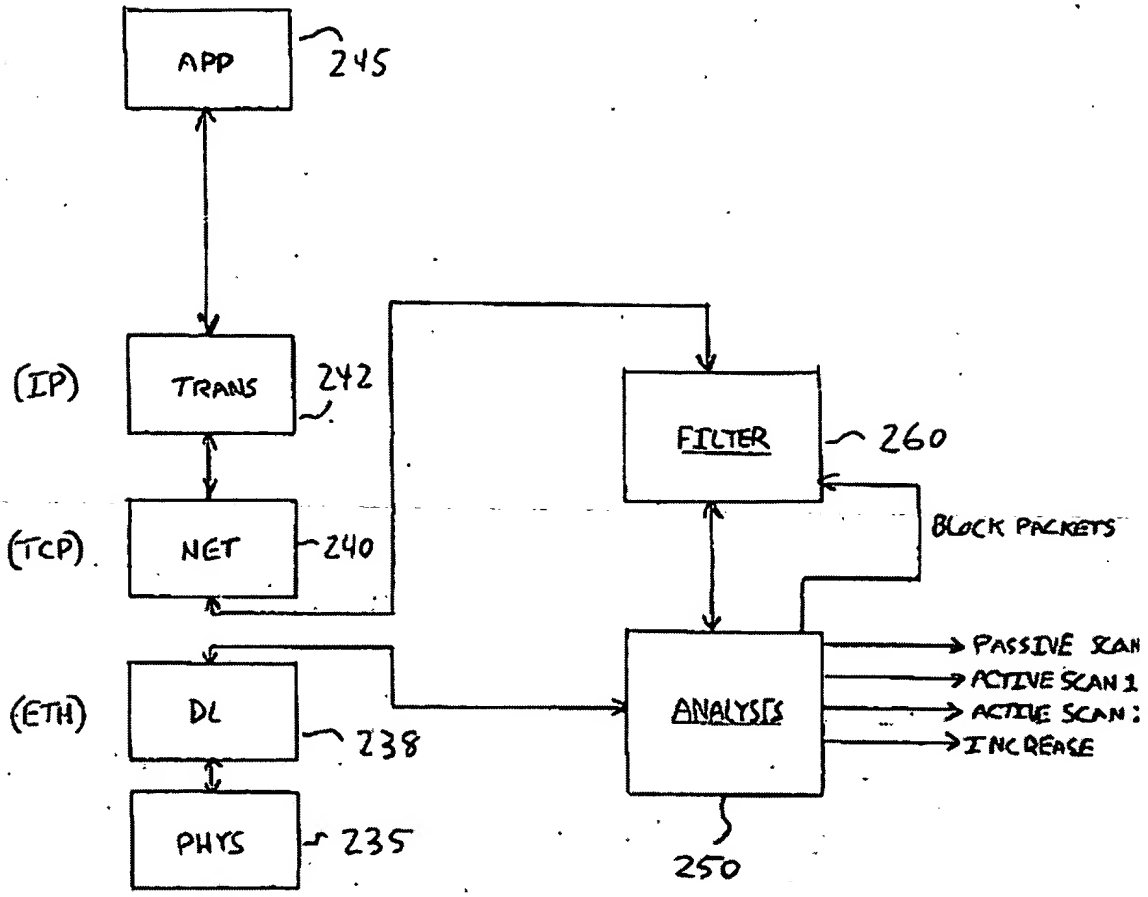


FIG 2B

Such a determination of type and origin of data contained in the computer data transmissions as recited in independent Claim 1 is opposite to the pattern matching state machine system of the Hershey reference that includes pattern alarms 144a, 144b, 144c that review data transmissions for characteristic patterns. A simple example that demonstrates the differences between the invention as recited in amended independent Claim 1 and the system described by the Hershey reference is as follows: a computer data transmission containing "Password Not Authorized" would trigger a response by the Hershey reference, meanwhile, a response would not be generated by the invention as described in amended independent Claim 1.

In light of the differences between the claims and the references mentioned above, one of ordinary skill in the art recognizes that the Johnson and Hershey references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended

independent Claim 1. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 18

The rejection of Claim 18 is respectfully traversed. It is respectfully submitted that the Johnson and Hershey references fail to describe, teach, or suggest: (1) with a sequence of instructions, analyzing computer data transmissions comprising non-voice based data to determine type and origin of data contained in the computer data transmissions in order to classify the data according to one or more categories; (2) modifying a first suspect-specific alert variable based on the computer data transmissions originating from a first suspect computer node comprising a workstation; (3) modifying a second suspect-specific alert variable based on the computer data transmissions originating from a second suspect computer node comprising a workstation; and (4) triggering a suspect-specific response when either of said suspect-specific alert variables reach a predetermined threshold level, as recited in amended independent Claim 18.

As noted above in the section addressing independent Claim 1, the Johnson reference teaches analyzing call detail records (CDRs) which are not related to computer data transmissions comprising non-voice based data. Further, the Johnson reference concerns digital cell phones and not workstations.

The Johnson reference can be properly characterized as a security system for a circuit switched network while the Applicants technology can be properly characterized as a security system for a packet switched network. One of ordinary skill in the art would not refer to a security system of a circuit switched network to address problems or issues with a packet switched network. Therefore, the Johnson reference is not analogous art and cannot be relied on as a basis for rejection of the Applicant's invention.

Regarding the Hershey reference, as noted above, a determination of type and origin of data contained in the computer data transmissions as recited in independent Claim 1 is opposite to the pattern matching state machine system of the Hershey reference that includes pattern alarms 144a, 144b, 144c that review data transmissions for characteristic patterns. A simple example that demonstrates the differences between the invention as recited in amended independent Claim 1 and the system described by the Hershey reference is as follows: a

computer data transmission containing "Password Not Authorized" would trigger a response by the Hershey reference, meanwhile, a response would not be generated by the invention as described in amended independent Claim 18.

In light of the differences between the claims and the references mentioned above, one of ordinary skill in the art recognizes that the Johnson and Hershey references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 18. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 26

The rejection of Claim 26 is respectfully traversed. It is respectfully submitted that the Johnson and Hershey references fail to describe, teach, or suggest: (1) storing a plurality of suspect-specific alert variables for a plurality of computer network nodes comprising workstations; (2) modifying a network alert variable based on the value of each of said plurality of suspect-specific alert variables; and (3) triggering a network response when said network alert variable reaches a predetermined threshold level, as recited in amended independent Claim 26.

As noted above in the section addressing independent Claim 1, the Johnson reference teaches analyzing call detail records (CDRs) which are not related to computer data transmissions. The Johnson reference can be properly characterized as a security system for a circuit switched network while the Applicants technology can be properly characterized as a security system for a packet switched network. The packet switched network includes computer nodes comprising computer workstations that are not digital cell phones.

Further, one of ordinary skill in the art would not refer to a security system of a circuit switched network to address problems or issues with a packet switched network. Therefore, the Johnson reference is not analogous art and cannot be relied on as a basis for rejection of the Applicant's invention.

Regarding the Hershey reference, this reference describes a pattern matching state machine system that includes pattern alarms 144a, 144b, 144c that review data transmissions for characteristic patterns. The Hershey reference does not provide any teaching of modifying a network alert variable based on the value of each of said plurality of suspect-specific alert

variables and triggering a network response when said network alert variable reaches a predetermined threshold level, as recited in amended independent Claim 26.

In light of the differences between the claims and the references mentioned above, one of ordinary skill in the art recognizes that the Johnson and Hershey references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 26. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 31

The rejection of Claim 31 is respectfully traversed. It is respectfully submitted that the Johnson and Hershey references fail to describe, teach, or suggest: (1) storing a plurality of overall alert variables for a plurality of computer network nodes comprising workstations; (2) modifying a network alert variable based on the value of each of said plurality of overall alert variables; and (3) triggering a network response when said network alert variable reaches a predetermined threshold level, as recited in amended independent Claim 31.

As noted above in the section addressing independent Claim 1, the Johnson reference teaches analyzing call detail records (CDRs) which are not related to computer data transmissions. The Johnson reference can be properly characterized as a security system for a circuit switched network while the Applicants technology can be properly characterized as a security system for a packet switched network. Further, workstations are not digital cell phones.

One of ordinary skill in the art would not refer to a security system of a circuit switched network to address problems or issues with a packet switched network. Therefore, the Johnson reference is not analogous art and cannot be relied on as a basis for rejection of the Applicant's invention.

Regarding the Hershey reference, this reference describes a pattern matching state machine system that includes pattern alarms 144a, 144b, 144c that review data transmissions for characteristic patterns. The Hershey reference does not provide any teaching of the combination of (1) storing a plurality of overall alert variables for a plurality of computer network nodes comprising workstations; (2) modifying a network alert variable based on the value of each of said plurality of overall alert variables; and (3) triggering a network response when the network

alert variable reaches a predetermined threshold level, as recited in amended independent Claim 31.

In light of the differences between the claims and the references mentioned above, one of ordinary skill in the art recognizes that the Johnson and Hershey references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 31. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claim 32

The rejection of Claim 32 is respectfully traversed. It is respectfully submitted that the Johnson and Hershey references fail to describe, teach, or suggest: (1) with a sequence of instructions in software, analyzing a first event from a suspect computer node comprising a workstation to determine type, destination, and origin of data contained in the event without using pattern alarms; (2) recording said first event in a first data structure having an event count value; (3) with the sequence of instructions in software, analyzing a second event from said computer suspect node to determine type, destination, and origin of data contained in the event without using pattern alarms, said second event being of a same type as said first event; and (4) recording said second event in said first data structure and incrementing said count value if said second event occurs within a predetermined window of time after said first event, as recited in amended independent Claim 32.

As noted above in the section addressing independent Claim 1, the Johnson reference teaches analyzing call detail records (CDRs) which are not related to computer data transmissions. Also, the Johnson reference refers is tailored for digital cell phones which are not workstations. The Johnson reference can be properly characterized as a security system for a circuit switched network while the Applicants technology can be properly characterized as a security system for a packet switched network.

One of ordinary skill in the art would not refer to a security system of a circuit switched network to address problems or issues with a packet switched network. Therefore, the Johnson reference is not analogous art and cannot be relied on as a basis for rejection under 35 U.S.C. § 103 of the Applicant's invention.

Regarding the Hershey reference, as noted above, a determination of what type of data is contained in the computer data transmissions as recited in independent Claim 32 is opposite to the pattern matching state machine system of the Hershey reference that includes pattern alarms 144a, 144b, 144c that review data transmissions for characteristic patterns. A simple example that demonstrates the differences between the invention as recited in amended independent Claim 1 and the system described by the Hershey reference is as follows: a computer data transmission containing "Password Not Authorized" would trigger a response by the Hershey reference, meanwhile, a response would not be generated by the invention as described in amended independent Claim 32.

In light of the differences between the claims and the references mentioned above, one of ordinary skill in the art recognizes that the Johnson and Hershey references, alone or in combination, cannot anticipate or render obvious the recitations as set forth in amended independent Claim 32. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Dependent Claims 2-17, 19-25, 27-30, and 33-40

The Applicant respectfully submits that Claims 2-17, 19-25, 27-30, and 33-40 are allowable because the independent claims from which they depend are patentable over the cited references. The Applicant also respectfully submits that the recitations of these dependent claims are of patentable significance.

Regarding Claim 8, to make up for the increased authentication deficiency of the Johnson reference, the Examiner relies on the Watson reference to provide such a teaching. Because the Johnson reference is no longer applicable to the amended claims, the Examiner's argument with respect to the Watson reference has been rendered moot. However, the Applicant points out that the Watson reference fails to provide any teaching of the combination of (1) analyzing computer data transmissions with the instructions to determine type, destination, and origin of data contained in the computer data transmissions in order to classify the data according to one or more categories; (2) modifying an alert variable based on the computer data transmissions originating from one or more suspect computer nodes comprising workstations; (3) triggering a first response when said alert variable reaches a first predetermined threshold level; and (4)

triggering a second response when said alert variable reaches a second predetermined threshold level, as recited in amended independent Claim 1.

Regarding Claim 9, to make up for the two or more logins deficiency of the Johnson reference, the Examiner relies on the CamNet reference to provide such a teaching. Because the Johnson reference is no longer applicable to the amended claims, the Examiner's argument with respect to the CamNet reference has been rendered moot. However, the Applicant points out that the Watson reference fails to provide any teaching of the combination of (1) analyzing computer data transmissions with the instructions to determine type, destination, and origin of data contained in the computer data transmissions in order to classify the data according to one or more categories; (2) modifying an alert variable based on the computer data transmissions originating from one or more suspect computer nodes comprising workstations; (3) triggering a first response when said alert variable reaches a first predetermined threshold level; and (4) triggering a second response when said alert variable reaches a second predetermined threshold level, as recited in amended independent Claim 1.

Regarding Claim 15, to make up for the deficiency of Johnson for having a transmission which retrieves information about the computer network node, the Examiner relies upon the NASIRC reference to provide such a teaching. Because the Johnson reference is no longer applicable to the amended claims, the Examiner's argument with respect to the CamNet reference has been rendered moot. However, the Applicant points out that the CamNet reference fails to provide any teaching of the combination of (1) analyzing computer data transmissions with the instructions to determine type, destination, and origin of data contained in the computer data transmissions in order to classify the data according to one or more categories; (2) modifying an alert variable based on the computer data transmissions originating from one or more suspect computer nodes comprising workstations; (3) triggering a first response when said alert variable reaches a first predetermined threshold level; and (4) triggering a second response when said alert variable reaches a second predetermined threshold level, as recited in amended independent Claim 1.

Regarding Claim 38, to make up for ping event type of the Johnson reference, the Examiner relies upon the Packages reference. Because the Johnson reference is no longer applicable to the amended claims, the Examiner's argument with respect to the Packages reference has been rendered moot. However, the Applicant points out that the Packages

reference fails to provide any teaching of the combination of (1) with a sequence of instructions in software, analyzing a first event from a suspect computer node comprising a workstation to determine type, destination, and origin of data contained in the event without using pattern alarms; (2) recording said first event in a first data structure having an event count value; (3) with the sequence of instructions in software, analyzing a second event from said computer suspect node to determine type, destination, and origin of data contained in the event without using pattern alarms, said second event being of a same type as said first event; and (4) recording said second event in said first data structure and incrementing said count value if said second event occurs within a predetermined window of time after said first event, as recited in amended independent Claim 32.

Accordingly, reconsideration and withdrawal of the rejections of these dependent claims are respectfully requested.

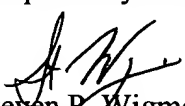
Conclusion

The foregoing is submitted as a full and complete response to the Office Action mailed on April 1, 2004. The Applicant and the undersigned thank Examiner Vaughn for consideration of these remarks. The Applicant has amended the claims and has submitted remarks to traverse rejections of Claims 1-40. The Applicant respectfully submits that the present application is in condition for allowance. Such action is hereby courteously solicited.

In the event the Examiner does not consider this application to be in condition for allowance, it is respectfully requested that the instant amendment be entered for purposes of Appeal. This amendment should simplify the issues for Appeal. Nonetheless, it should be unnecessary to proceed to Appeal because the instant application should now be in condition for allowance.

If the Examiner believes that there are any issues that can be resolved by a telephone conference, or that there are any formalities that can be corrected by an Examiner's amendment, please contact the undersigned in the Atlanta Metropolitan area (404) 572-2884.

Respectfully submitted,



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